

AP Biology- Course Expectations and Summer Assignment

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Course Description:

This course follows the guidelines created by the College Board. It is designed to be equivalent to a college level introductory course. Successful completion of the AP Biology exam leads to either introductory biology credit or elective credit depending on the requirements of the college a student is attending.

Course Objective:

AP biology students will demonstrate the ability to use specific skills and processes, appropriate scientific terminology, and major biological concepts to explain the uniqueness and interdependence of living organisms, their interactions with the environment, and the continuation of life on Earth.

Academic and Behavioral Expectations:

AP Biology provides students with an experience equivalent to a college level biology course. There are extensive reading assignments that the student **must** complete in order to be successful. Supplementary readings in the form of journal articles, and supplementary texts are also required. In addition students are expected to complete assigned laboratory write-ups and any other supplementary assignments given throughout the course. Students are expected to spend at least **1-2 hours each night** (or 5-10 hours on weekends) reading, reviewing, and or completing assignments. Student not able to, or unwilling to put in the time generally do not do well in AP Biology.

At all times students are expected to follow school rules, behave in a responsible and mature manner, and conduct themselves with honor and integrity. Students are expected to do their own work. Plagiarism and cheating will not be tolerated.

Provisions for extra help and make-up:

To successfully master the large amount of complex information presented in this class, after school or during lunch study sessions may be available. The frequency and duration of the sessions will depend on consensus of class and instructor availability.

Students who are absent from class are responsible to pick up make-up work or stay after school or during lunch to finish missed assignments. Please schedule make-up work immediately upon your return from your absence.

It also may be helpful to form a student study group. Find a group of friends in class and exchange phone numbers and or email. This way if you miss a class you can contact them and find out what you missed in class that day.

Summer Assignment:

All parts of the Summer Assignment are due the first day of school with exception of Part I which is due earlier.

Part I- Letter of Introduction

Since we are going to be spending a lot of time together next year, I would like to get to know you better. We are also going to be using the Internet and electronic communication to share information and data. Let's take a moment to get used to communicating via e-mail.

Your first digital assignment is to successfully send me an e-mail. **Due date: July 1, 2013**

Draft an e-mail to me following these rules:

1. Use clearly written, **full sentences**. Do not abbreviate words like you are on AIM with a friend. Use **spell check!** This is a professional communication like you would have with a college professor, so let's practice for your rapidly nearing future!
2. Address it to me at: maf0171@lausd.net
3. Make the **Subject**: "AP Bio: Introduction to <Insert Your Name Here>" (Do not include the quote marks or the brackets, just the words)
4. Begin the e-mail with a **formal salutation**, like "Mr. Fazio or "Dear Mr. Fazio,"
5. Now introduce yourself (your name) and tell me a little bit about yourself, like:
 - a. What do you like to do (hobbies, sports, music, interests, etc.)?
 - b. Do you have a job?
 - c. Tell me a little bit about your family (Mom? Dad? Guardian? Siblings? Pets?)
 - d. What do your parents do for a living?
 - e. Was there anything that you liked about your earlier biology class?
 - f. What was the last book you read for fun?
 - g. What are you looking forward to the most in AP Biology?
 - h. What are you most anxious about in AP Biology?
6. End the e-mail with a **formal closing**: "Cordially", "Sincerely", "Warm regards", etc. and add your name as if you signed a letter.

Part II- How to Study Science

Read the excerpt chapters (Ch 1, 9-11) from *How to Study Science* 4th edition by Drewes and Milligan. I have photocopies of the required chapters and questions. You can pick up a copy of your own at Amazon (http://www.amazon.com/s/ref=nb_ss_gw?url=search-alias%3Daps&field-keywords=how+to+study+science+drewes+milligan&x=0&y=0). Answer the questions for each of the chapters (exercises 1, 9, 10 11a-d) on your own piece of paper.

Part III- Reading a Journal Article

Search the web or library for a current science journal article that interests you. Print the article and answer the questions on the “Reading a Journal Article” worksheet. Be prepared to discuss this article on the first day of class. Some examples of open access journals include the Public Library of Science (www.plos.org) or the Proceedings of the National Academy of Science (www.pnas.org). PLOS is completely open access while PNAS articles are open access if they are 6 months old or older. Another open access journal resource is biomed central (<http://www.biomedcentral.com/browse/journals/>) with over 199 open access journals. I expect you to read the entire article not just the abstract.

Part IV- A Biological Collection

For this part of your summer assignment, you will be familiarizing yourself with science terms that we will be using at different points throughout the year. You will be “collecting” images throughout the summer by taking digital photographs **OR** drawing personal sketches. Your collection must include **25** items from the list found on the page attached.

Guidelines for Collections

1. **You are required to collect** a total of **25 items** from the list. You will collect each item by finding it and taking a photograph or creating a personal drawing of that item. You are required to include a description that includes the following:
 - a. What the specimen is
 - b. Where you found it
 - c. How it relates to the biological term you chose
 - d. What the term means (either a definition or proper use in a sentence)
2. **Keeping your collection:** You may choose to post your collection as a Blog on a website. There are many free blogging/ websites sites out there; here are just a few I know about.
 - Blogger: <http://www.blogger.com/>
 - Wordpress: <http://wordpress.com/>
 - Weebly: <http://www.weebly.com/>
 - Google Sites: <https://sites.google.com/>

If you are unfamiliar with how create a blog or gallery you can find in depth how to guides for all of these sites online, just do a quick Google search.

3. **Be Creative!** You do not necessarily need to be literal in your collection. That being said your item should be a good representative of the term you chose.

4. **Original artwork or photography only!** You cannot use an image from any publication or the Web. You must have taken the photograph or drawn the sketch yourself. The best way to prove that is to place an item in all of your photographs that only you could have added each time, something that you might usually have on you like a pen or a coin or a key or your phone, etc. Also your photographs should be of good quality and your sketches should be detailed and at least 4x6 inches in size. **You will receive a zero if you copy your images from the web.**

5. **NATURAL ITEMS ONLY!** All organisms must be from something that you have found in nature. Take a walk around your yard, neighborhood, and town. **DON'T SPEND ANY MONEY!** Research what the term means and in what organisms it can be found... and then go out and find one. Each organism may be used only once. You need a different organism for each term.

It may be helpful to purchase an **AP Biology Study guide**. You can pick them up from Barnes and Noble, Amazon, or Borders. You also may want to buy your own copy of the textbook: **Campbell, Neil A., and Jane B. Reece. *Biology*. San Francisco: Pearson, Benjamin Cummings, 2005.** They can be found for around \$15-20 on Amazon. A copy will be checked out to you the first day of class.

INDIVIDUAL ITEMS

You MUST collect 25 drawings/pictures to receive full credit.

1. adaptation in an animal
2. adaptation in a plant
3. altruistic behavior
4. amniotic egg
5. analagous structures
6. animal that has a segmented body
7. anther & filament of stamen
8. archaeobacteria
9. asexual reproduction
10. ATP
11. autotroph
12. Batesian mimicry
13. bilateral symmetry
14. biological magnification
15. C3 plant
16. C4 plant
17. CAM plant
18. Calvin cycle
19. cambium
20. cellular respiration
21. cellulose
22. coelom
23. coevolution
24. commensalism
25. connective tissue
26. cuticle layer of a plant
27. detritovore
28. dicot plant with flower & leaf
29. diploid
30. dominant vs. recessive phenotype
31. ectotherm
32. endosperm
33. endotherm
34. enzyme
35. epithelial tissue
36. eubacteria
37. eukaryote
38. exoskeleton
39. fermentation
40. flower ovary
41. gametophyte
42. genetic variation within a population
43. genetically modified organism
44. glycogen
45. gymnosperm
46. hermaphrodite
47. heterotroph
48. homeostasis
49. homologous structures
50. hydrophilic
51. hydrophobic
52. introduced species
53. keystone species
54. Krebs cycle
55. *K*-strategist
56. lepidoptera
57. lichen
58. lipid used for energy storage
59. littoral zone organism
60. meristem
61. Mullerian mimicry
62. mutualism
63. mycelium
64. mycorrhizae
65. myosin and actin
66. niche
67. parasitism
68. parenchyma cells
69. phloem
70. pollen
71. pollinator
72. population
73. predation
74. prokaryote
75. protein
76. protostome
77. *r*-strategist
78. radial symmetry (animal)
79. redox reaction
80. rhizome
81. seed dispersal
82. scale from animal with two-chambered heart
83. spore
84. sporophyte
85. stigma & style of carpel
86. succession
87. taxis
88. territorial behavior
89. tropism
90. unicellular organism
91. vascular plant
92. vestigial structures
93. xylem